

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re U.S. Patent Application of )  
Arnold C. BILSTAD, BRADLEY H. )  
BUCHANAN, ALAN W. MARTTILA, )  
and ARCHIE WOODWORTH )  
For: METHOD AND APPARATUS FOR )  
MANIPULATING PRE-STERILIZED )  
COMPONENTS IN AN ACTIVE )  
STERILE FIELD )

Mailed: October 4, 2001 )

**PRELIMINARY AMENDMENT**

BOX PATENT APPLICATION  
Commissioner For Patents  
Washington, D.C. 20231

Dear Sir:

Applicants submit this Preliminary Amendment for entry before the application has been taken up for examination.

**A M E N D M E N T**

**In the Specification:**

Please amend the Specification as follows:

Please add the following paragraph on page 1, before the paragraph entitled Technical Field:

-- Related Applications

This Application is a divisional of co-pending U.S. Application No. 09/294,964, filed April 20, 1999, upon which a claim of priority is based. --

**In the Claims**

Please cancel claims 1-17 and 34-56, without prejudice, in the present application.

Please add the following claims:

--57. A sterilization apparatus comprising,  
an electron beam tube having a window permitting emergence of an electron beam from said tube into an ambient gaseous environment while preserving a vacuum environment in the tube, the electron beam having a trajectory within a plasma cloud defining a reactive volume stimulated by interaction of the electron beam with the ambient environment, with a beam energy less than 100kV at the target, and  
a moveable member manipulating objects in a plurality of directions within the reactive volume wherein the manipulated objects are sterilized.

58. The apparatus of claim 57 wherein a plurality of beam tubes have electron beams forming a common reactive volume.

59. The apparatus of claim 58 where the beam tubes are sufficient in number and arrangement to avoid shadows on specific objects placed in the reactive volume.

60. The apparatus of claim 57 further defined by a housing containing the ambient environment.

61. The apparatus of claim 60 wherein the housing has ports for insertion of material to be sterilized.

62. A sterilization apparatus comprising,  
a chamber with ports allowing insertion of objects to be sterilized and having a gaseous environment therein,  
a plurality of vacuum tubes fixed relative to the chamber, each emitting an electron beam along a path into the chamber through a window separating the gaseous environment

of the chamber from the vacuum of the tube, the beam paths from the tubes within a common plasma cloud stimulated the electron beams interacting with the gaseous environment within the chamber, defining a volume associated with the plasma cloud wherein the objects to be sterilized are exposed to the plasma cloud, and at least one moveable member manipulating objects in a plurality of directions in the reactive volume wherein manipulated objects are sterilized.

63. The apparatus of claim 62 wherein the gaseous environment is an air environment.

64. The apparatus of claim 62 wherein the gaseous environment is at atmospheric pressure.

65. A sterilization apparatus comprising,  
a single electron beam tube having a window permitting emergence of an electron beam from said tube into an ambient gaseous environment while preserving a vacuum environment in the tube, the electron beam having a trajectory within a plasma cloud defining a reactive volume stimulated by interaction of the electron beam with the ambient environment, with a beam energy less than 100kV at the target, and  
an automated moveable member for manipulating objects, including objects that differ in variety, size and shape from the objects to which they are joined, in a plurality of directions within the reactive volume wherein the manipulated objects are sterilized by said single electron beam tube.--

#### **Added Claims 57-65**

Applicant's have copied claims 57-65 from U.S. Patent No. 6,140,657 ("657") issued to Wakalopulos et al. for the purpose of an interference pursuant to 37 C.F.R. § 1.607 (MPEP § 2307).

Under 35 U.S.C. 135(b), in order to be considered, claims meant to correspond to a proposed count must be added to an application within one year of the issuance date. One year from the date of issuance for the '657 patent is October 31, 2001. Therefore, these added claims should be considered timely filed. The Claims correspond as follows:

Applicants' Claim 57 is a copy of the '657 patent's Claim 1;  
Applicants' Claims 58-61 are copies of the '657 patent's Claims 5-8, respectively;  
Applicants' Claim 62 is a copy of the '657 patent's Claim 11;  
Applicants' Claims 63-64 are copies of the '657 patent's Claims 16-17, respectively; and  
Applicants' Claim 65 is a paraphrasing of the '657 patent's Claim 18.

### REMARKS

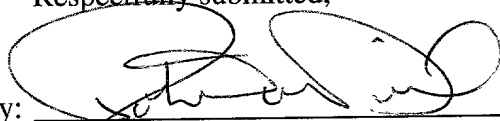
Claims 18-33 remain pending in the present application. Applicants have added Claims 57-65. No new matter has been added to the application by these amendments.

It is respectfully submitted that the currently pending claims are believed to be in condition for allowance. Notice to this effect at the Examiner's earliest convenience is earnestly sought.

Respectfully submitted,

Date: October 4, 2001

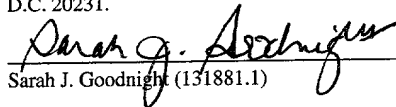
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I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 C.F.R. § 1.10 on the date indicated above and is addressed to: Box Patent Application, Commissioner for Patents, Washington, D.C. 20231.

  
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